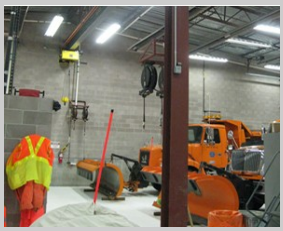
Operations
Goals and Accomplishments 2011



Aeronautics

Equipment

Maintenance

Motor Carriers

Procurement

Risk Management

Traffic Management

Traffic and Safety

udot.utah.gov

Ahmad Jaber

UDOT Operations Director

Operations Departments

- AERONAUTICS
- EQUIPMENT OPERATIONS
- MAINTENANCE
- MOTOR CARRIERS
- PROCUREMENT
- RISK MANAGEMENT
- TRAFFIC MANAGEMENT (TOC)
- TRAFFIC AND SAFETY

Message From The Director

I am pleased to present this report that highlights each of the Operations group roles, accomplishments, and performance measures. The responsibilities of the Operations group includes: Aeronautics, Equipment Operations, Traffic Management, Maintenance Planning, Traffic and Safety, Motor Carriers, Procurement, and Risk Management.

The Operations group carries out the day-to-day functions of the Utah Department of Transportation (UDOT) required to keep the transportation system operating smoothly and safely. The focus of each division in this report is to share a few performance measures and how these measures relate to the Department Strategic Goals. Although the expectations of our stakeholders are increasing and the transportation systems are growing more complex every day, I am confident our staff has the expertise and commitment to work toward solving these challenges. The staff has many other performance measures that associate with these challenges. We want to be flexible in working with the regions and other stakeholders in dealing with these challenges, and we strive to deliver excellence. Our goal is to be customer-focused.

I want to thank our staff for the work that went into making this document and for the many other performance measures they have created that focus on the Department Strategic Goals. I look forward to receiving your feedback.

Aeronautics

INTRODUCTION

The Aeronautics Division administers all state and federal funding for capital improvement projects and maintenance at Utah's public-use airports. The Division provides air transportation service to state elected officials and employees who travel around the state and neighboring states on official business. The Division is also responsible for maintaining its aircraft and the aircraft owned by the Department of Natural Resources. The Division operates and maintains state-owned air navigation aids, and promotes the growth and development of aviation throughout Utah.

2011 Accomplishment

- Completion of the new St. George replacement airport
- Reconstruction of main runway at Cedar City Airport
- Reconstruction of runway at Escalante Airport
- Completion of the new Monticello Airport
- Construction of a new passenger terminal at Provo Municipal Airport
- Completion of the first of four deicing pads at Salt Lake International

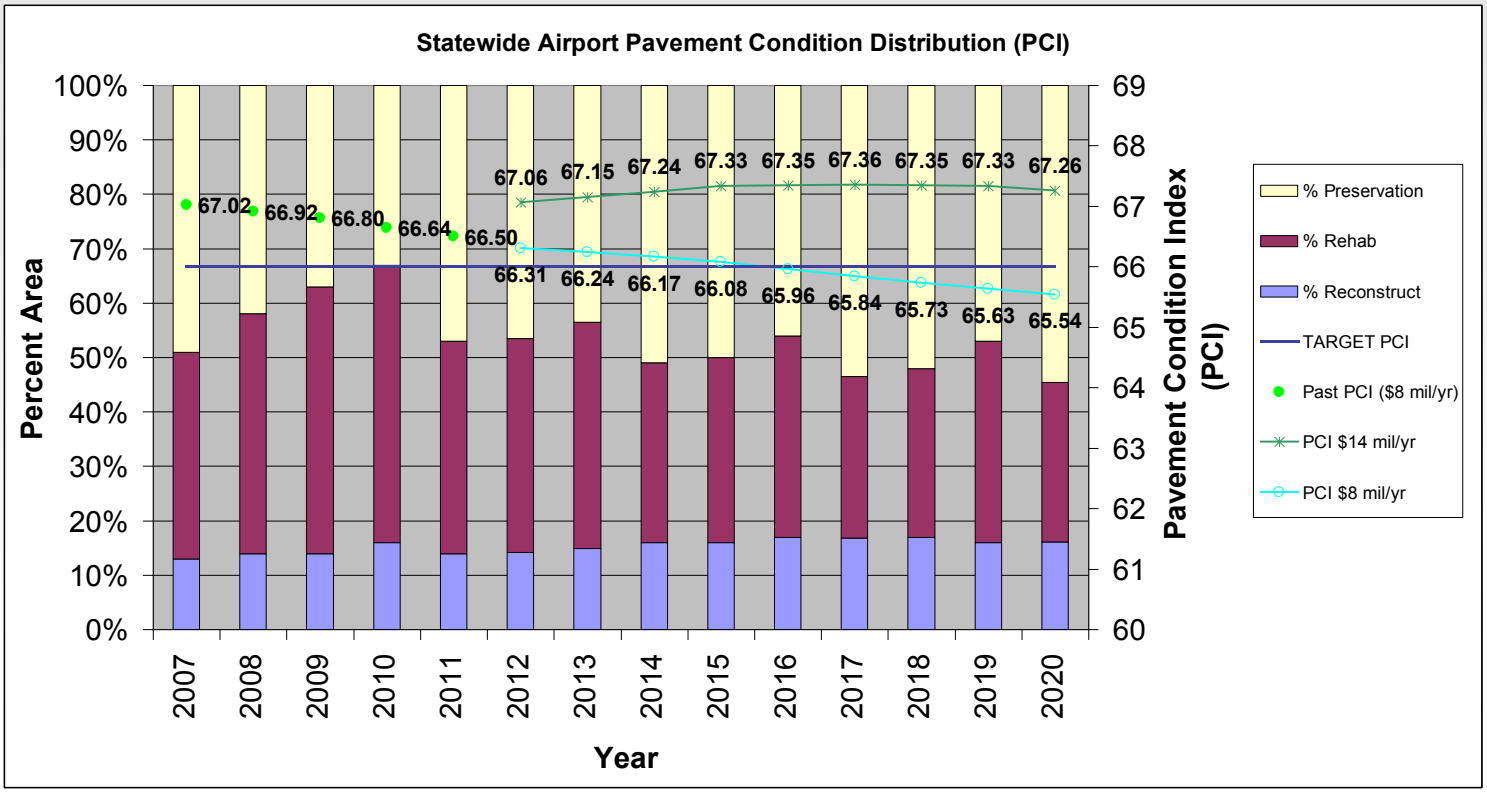
2012 Goal

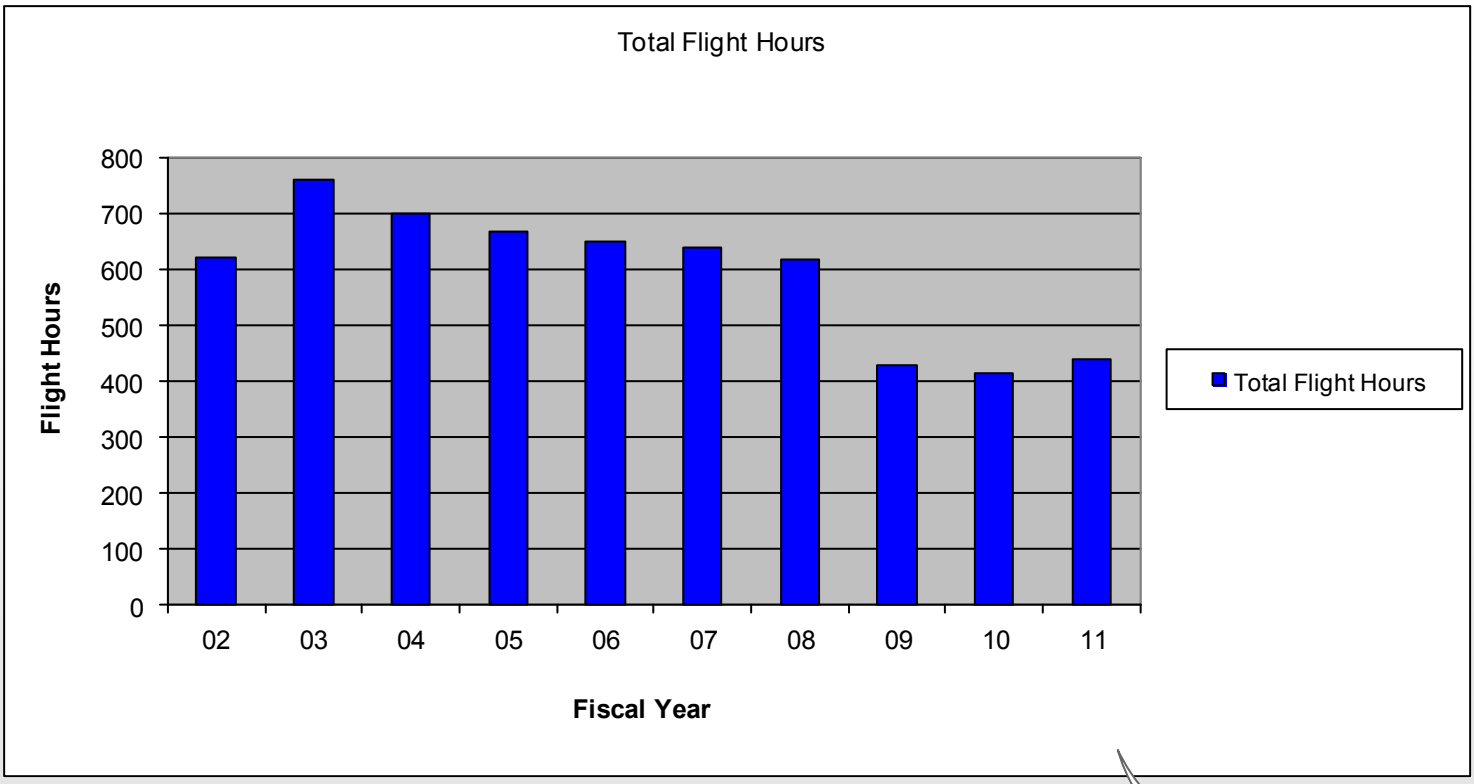
- Completion of parallel taxiway at Wendover Airport
- Completion of the second de-ice pad at Salt Lake International
- Reconstruction of the Ogden Airport runway
- Identify and eliminate errors in Utah based aircraft database
- Maintain an aggregate statewide pavement condition index value of at least sixty-five

How We Will Improve

- Continue to work with the Federal Aviation Administration to identify capital improvement projects which have the greatest potential to improve the performance of Utah's airport system.
- Partner with the Utah Airport Operators Association to receive feedback on how Aeronautics can better serve their needs.

Aeronautics





Equipment Operations

INTRODUCTION

Equipment Operations maintains a computerized system, which contains an accounting of all expenditures on each individual vehicle and maintenance type equipment; requests and executes work programs for buying replacement vehicles and maintenance equipment; provides specialized training programs to improve the skills of equipment operators and mechanics; analyzes computer reports in an effort to discover ways of improving fleet operations; and reduces maintenance and repair costs and increases the usage of equipment. Equipment Operations is responsible for the Department's 4,100 units of highway vehicles and equipment. The current replacement value is $140,000,000. We have eight-nine employees and spend over $20,000,000 to manage, operate, and maintain the fleet.

2011 Accomplishment

Equipment Operations purchased two more hybrid vehicles bringing the count to twenty. Equipment Operations purchased one more CNG vehicle to bring the total of alternative fuel vehicles to ten units.

2012 Goal

In FY 2012 Equipment Operations will monitor the following:

1. Equipment downtime
2. Region shops report card
3. Fleet utilization
4. Commercial repairs vs. in-house

2011 Accomplishment

Equipment Operations has continued the lease buy back program to save mechanic time and down time. As of this year there are twenty-seven leased backhoes, thirteen buy back loaders, thirty-one leased tractor and seven leased graders. Equipment Operations has continued with the tow plow units, we have purchased two more, bringing our total to six units

How We Will Improve

Equipment Operations will continue to evaluate the results from all of the areas we are measuring, we will then make recommendations as to how to improve our processes and operations.

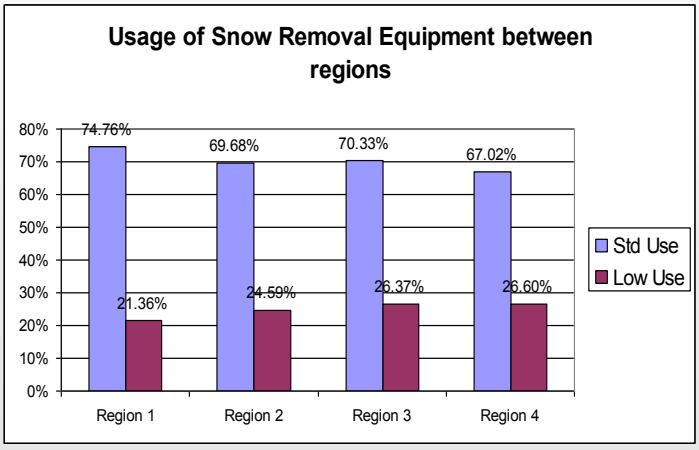


Figure 1: Snow Plow Truck Usage

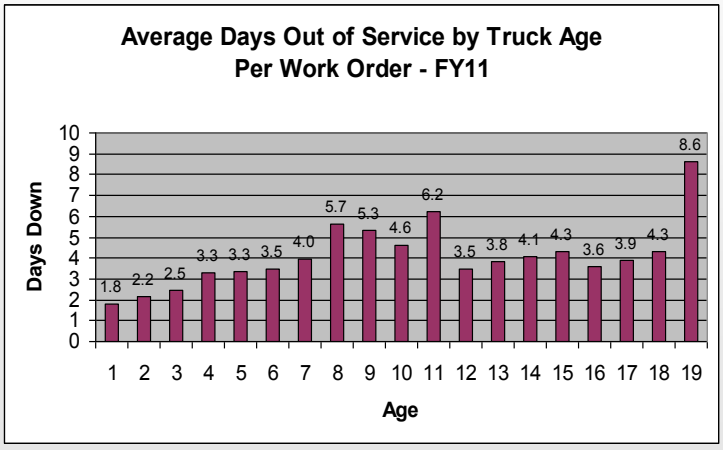


Figure 2: Average Days Out of Service by Truck Age Per Work Order

Equipment Operations

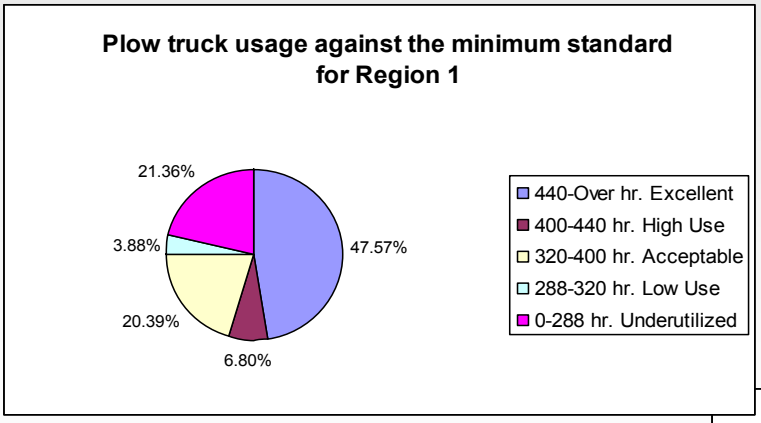


Figure 3: Reg 1 Snow Plow Truck Usage

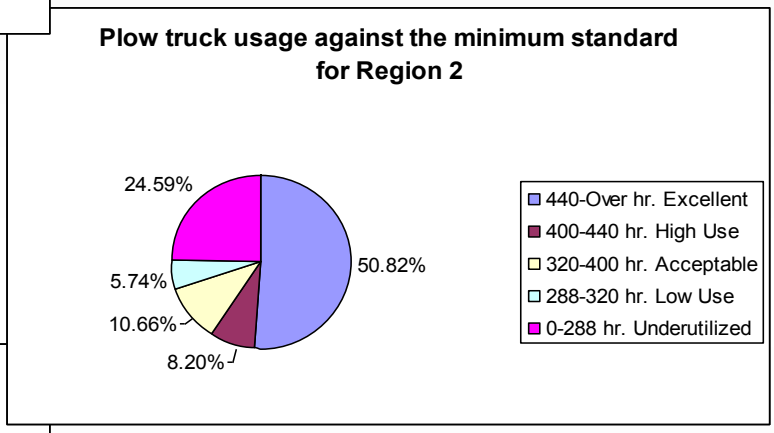


Figure 4: Reg 2 Snow Plow Truck Usage

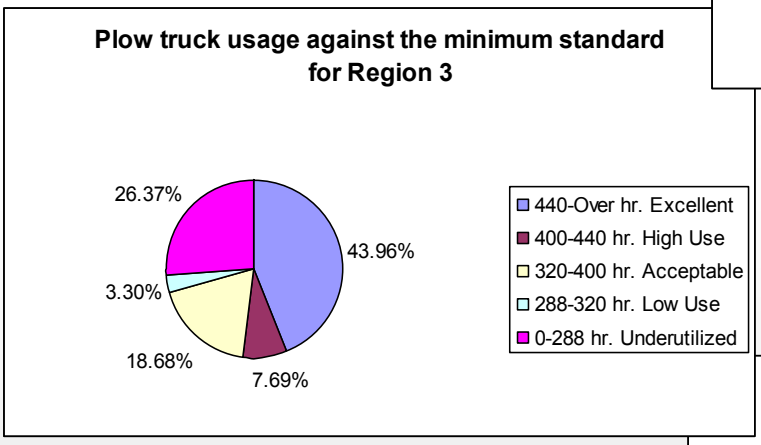


Figure 5: Reg 3 Snow Plow Truck Usage

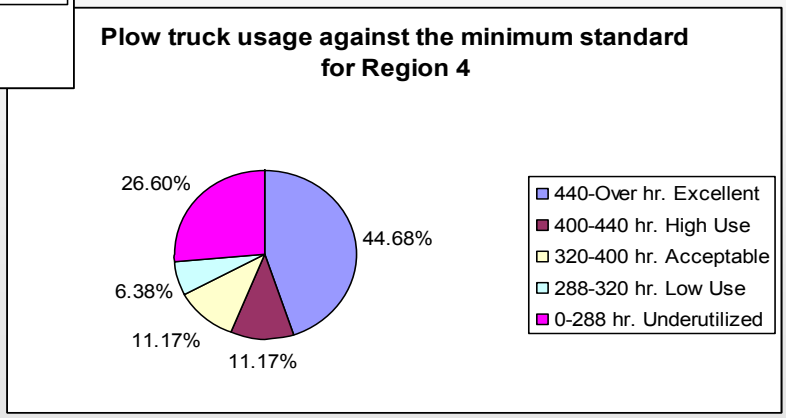


Figure 6: Reg 4 Snow Plow Truck Usage

Maintenance

INTRODUCTION

We take care of what we have by planning and budgeting maintenance services to insure that the public has a safe, well maintained infrastructure to travel on. The level of service (LOS) is measured by taking a public customer satisfaction survey and internally rating our level of maintenance (LOM) and performance on state roads. We are also striving to be Energy Conscious by implementing renewable energy initiatives utilizing solar, wind and LED lighting statewide. By measuring these three key performances, we can direct resources where they are needed most.

2011 Accomplishment

- The public is generally pleased with highway maintenance, rating their satisfaction between fair and good statewide.
- Maintenance Management Quality Assurance (MMQA) measurements show that the state is maintaining at an average level of service (LOS) B, meeting or exceeding 19 measured activities.
- Implementation of renewable energy initiatives year-to-date, we have installed solar energy systems on five maintenance stations and wind power systems on one of the stations. Energy efficiency efforts have included lighting retrofits at Aeronautics and Region offices. These renewable energy initiatives have resulted in a 36.4 % energy reduction.

2012 Goal

- Continue to maintain key safety activities while increasing public satisfaction with striping, and providing smoother pavements.
- We will continue to adjust resources to the areas where we are not meeting the target LOS from the areas where we are exceeding target LOS, keeping focused on safety and continue to improve MMQA performance statewide.
- Planned projects based on funding, solar thermal at the Strawberry Maintenance Station (to assist propane heating system), Cedar District Office lighting upgrade, solar power on the Traffic Operations Center and LED lighting upgrades on all rest areas.

CLEAR ROADS
research for winter highway maintenance

Maintenance

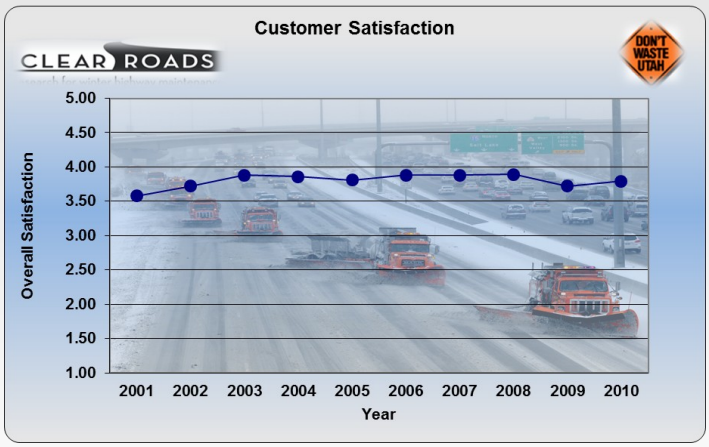


Figure 1: Public Survey, Customer Satisfaction 2011

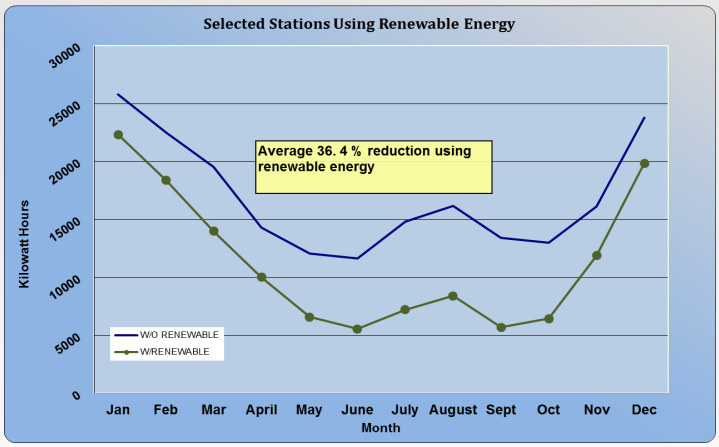


Figure 2: Energy reduction using solar panels and conservation

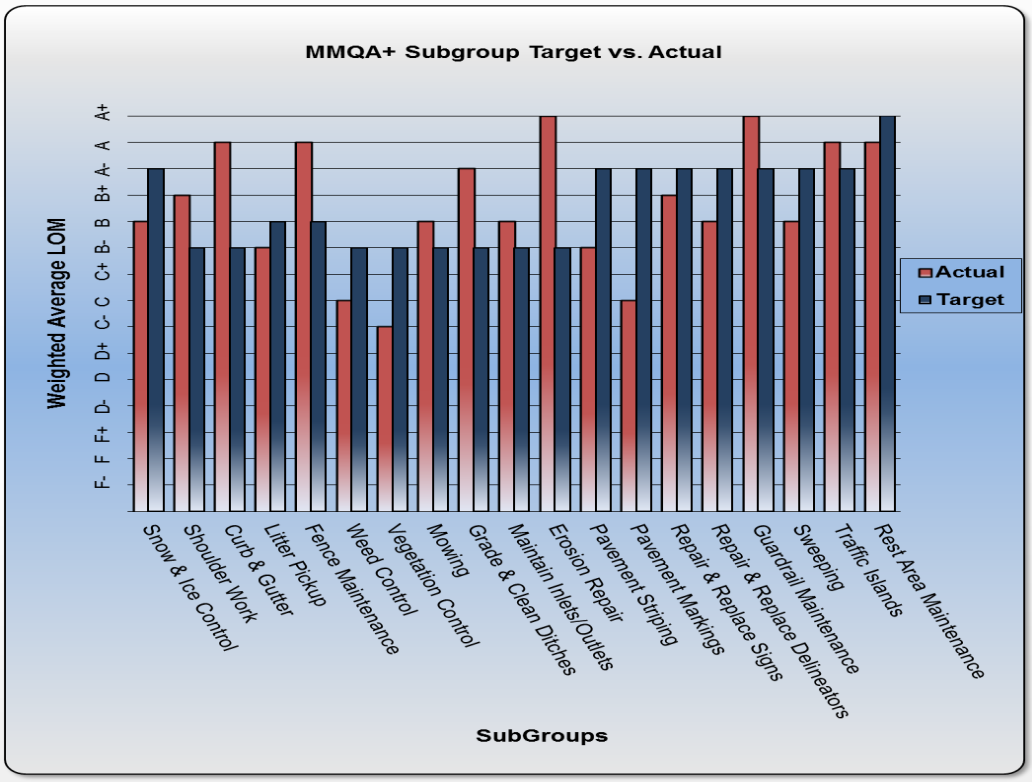


Figure 3: MMQA Target vs Performance

How We Will Improve

We will manage our resources (Labor, Equipment and Materials) by using performance measurements to help us know where we are deficient and once we are aware of where we need to improve, we work together to shift limited resources to meet our goals statewide.

Motor Carrier

INTRODUCTION

It is our mission to enhance highway safety, to protect and preserve Utah's highway infrastructure and to facilitate commerce. We'll realize this Mission by reducing crashes, injuries and fatalities involving commercial motor vehicles. This is accomplished, by monitoring the size and weight of commercial motor vehicles, properly permitting and routing oversize and overweight loads at our port of entry locations and by deploying state of the art technologies to improve efficiencies at each port of entry. In addition, our safety investigators conduct comprehensive compliance reviews and new entrant audits.

2011 Accomplishment

In an effort to improve safety, the Motor Carrier Division conducts driver and vehicle inspections on commercial motor vehicles and commercial drivers. The chart below indicates the performance over the last four years.

2012 Goal

The Motor Carrier Division has set a goal of completing 38,000 driver and vehicle inspections during 2012.

2011 Accomplishment

Safety investigators for the Motor Carrier Division conduct compliance reviews and new entrant safety audits. The compliance review and safety audit are in-depth investigations of the safety aspects of a commercial motor carrier. These reviews help support the strategic goal of improving safety. The following chart indicates performance for last four years.

2012 Goal

- Performance expectations for compliance reviews – 255
- Performance expectations for new entrant audits – 425

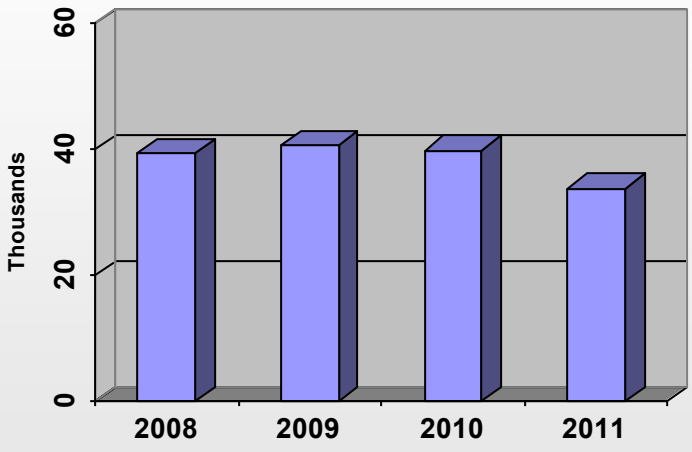


Figure 1: Driver/Vehicle Inspections

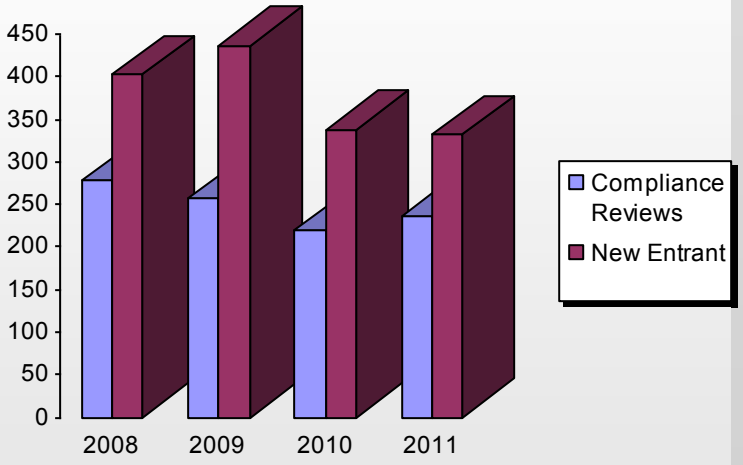


Figure 2: Compliance Review and New Entrant Audits

Motor Carrier

2011 Accomplishment

The Port of Entry operation supports the Department's strategic goal to preserve infrastructure. Division employees examine commercial vehicles to ensure they are within legal size and weight limitations. In addition, employees issue oversize and overweight permits and verify loads to ensure they are within limits.

2012 Goal

Monitor vehicles and loads to ensure they conform to state and federal size and weight regulations, issue permits, verify permits, provide education to customers and take appropriate enforcement actions.

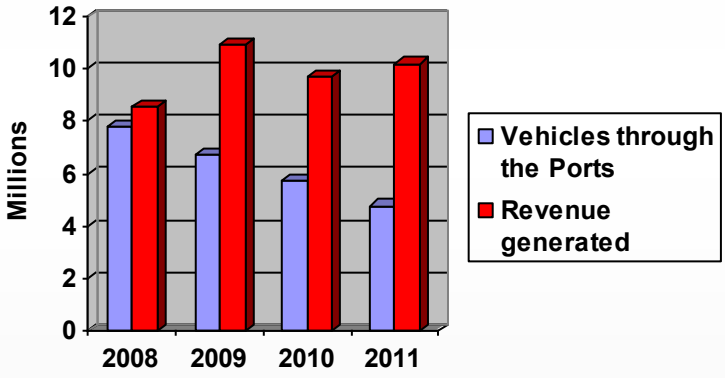


Figure 3: Port of Entry statistics

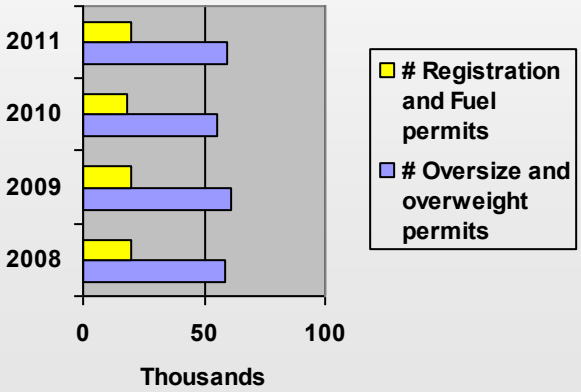


Figure 4: Permit Sales

2011 Accomplishment

The Motor Carrier Division has engaged in a broad based public education and outreach program. It focuses on driving around commercial vehicles. Seventeen education and outreach events were conducted over the last year.

2012 Goal

Continue using existing program methods as in previous years to increase public and industry awareness concerning matters of driving safely around commercial motor vehicles. As crash corridors are identified from collected crash data, public education efforts will be developed and focused on these locations.

How We Will Improve

The Motor Carrier Division will employ new technologies that will enhance the port of entry operation and provide an avenue for our customers to be more efficient and provide time and money savings.

In addition, it will alleviate traffic congestion in and around the ports of entry and allow employees to better identify carriers with deficiencies in their operation. The following technologies will be developed and deployed: ramp sorting systems, license plate readers, optical character readers, automated routing programs, WiFi and customer service kiosks at ports of entry.

MOTOR CARRIER DIVISION

Procurement

INTRODUCTION

We are responsible for the acquisition of all equipment, materials, supplies and services for the Department, including Warehousing. We support all divisions within UDOT by assisting in writing good contracts/purchase orders to enable all of our customers to get their job completed in a timely/efficient manner. We provide planning, research, design, construction, maintenance, security and safety of the State Interstate and Transportation system as detailed in Chapter 72 of the Utah Code. This allows us to provide for the maintenance of State and Interstate highways without involvement of State Procurement.

2011 Accomplishment

- More efficient process under Chapter 72 vs State Limited Purchasing Delegation (LPD) from State Procurement
- Prepared more Agency Contracts
- Being involved with our customers requests from beginning to completion

2012 Goal

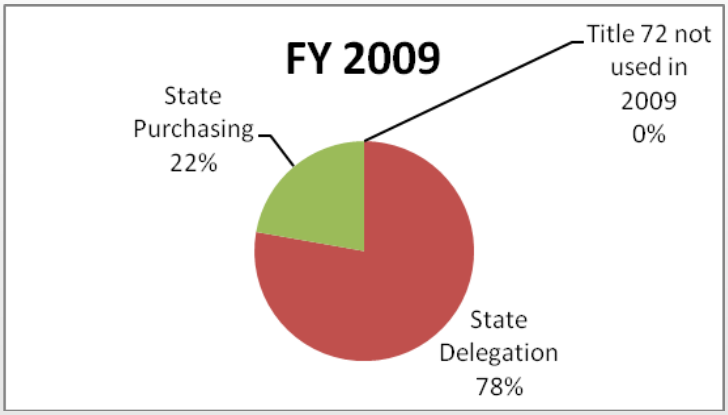
- Continue to improve Procurement process
- Continue to write good contracts
- Continue to be customer focused

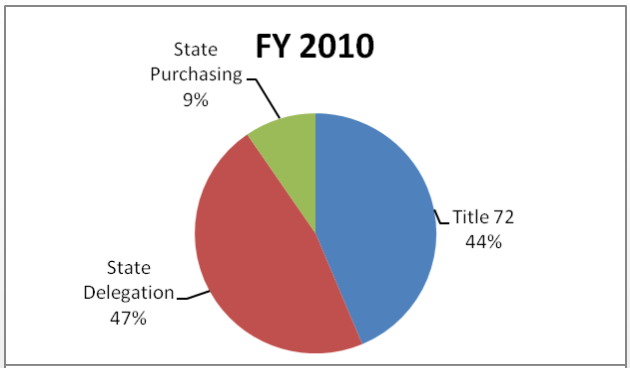
2011 Accomplishment

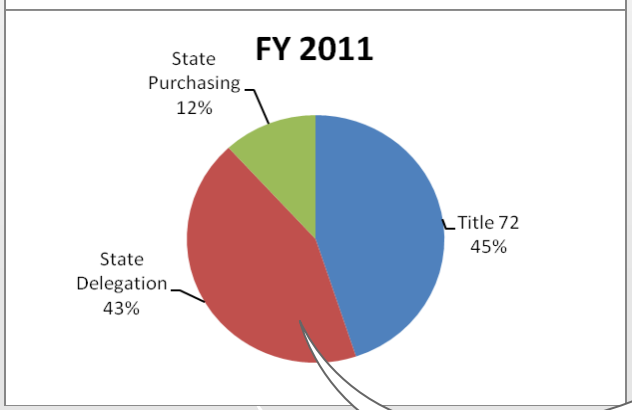
- Stocking more high dollar, long lead time items at Central Warehouse
- More focus on stocking items that meet all Regions needs

2012 Goal

- Expand our partnership with Traffic and Safety to stock critical state furnished materials
- Improve turns and availability of products stocked in our warehouse.

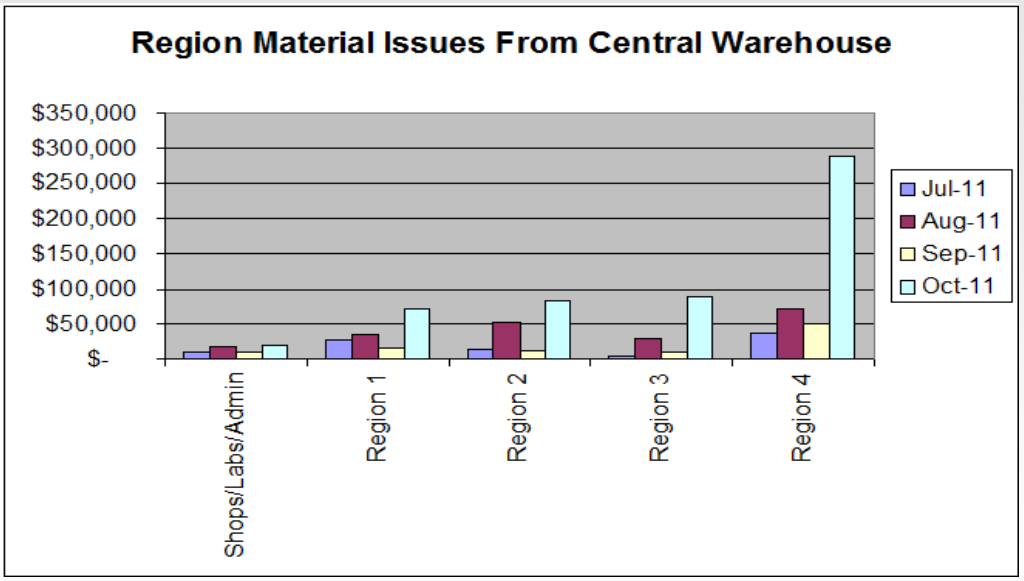


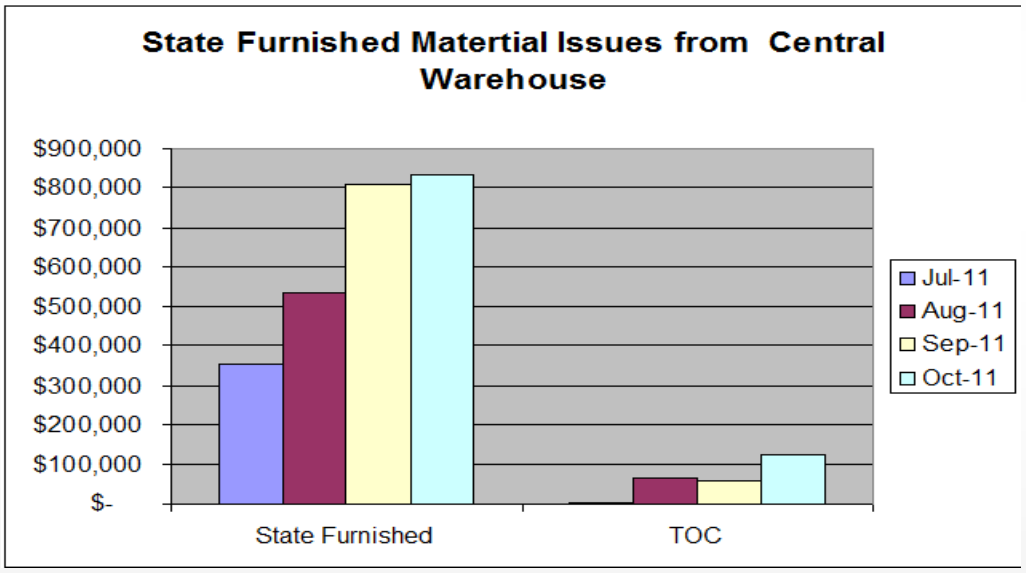




Figures 1,2, and 3:The greater the percent depicting Title 72 the more efficient we are as our internal processes eliminate 2-3 weeks of administration time. This enables our end users to use our contracts and purchase quickly, saving time and money.

Procurement





Figures 4 & 5: These graphs depict the monthly materials issued from the Central Warehouse to the different UDOT Regions and Contractors. State furnished materials are considered High Dollar, Long Lead Time, Hard to get items, which is the vision the Central Warehouse has strived to provide.

How We Will Improve

We will continue to work close with our customers and be involved upfront with all their requests to help guide them in which Procurement path to follow to get their needs met.

Risk Management

INTRODUCTION

Risk Management is involved in most activities at UDOT ranging from looking after the safety of our employees, contractor employees and the public at large through loss report analysis, managing all of the GRAMA requests , procurement of insurance, management of the OCIP programs, and the emergency management program. We strive to make sure that the public is taken care of and that all employees go home safely every night.

2011 Accomplishment

- 260 GRAMA requests responses

2012 Goal

- Timely response to all GRAMA Requests

2011 Accomplishment

- $198,000 recovery from third parties for damages to UDOT real property and large equipment

2012 Goal

- 90% Recovery from third parties

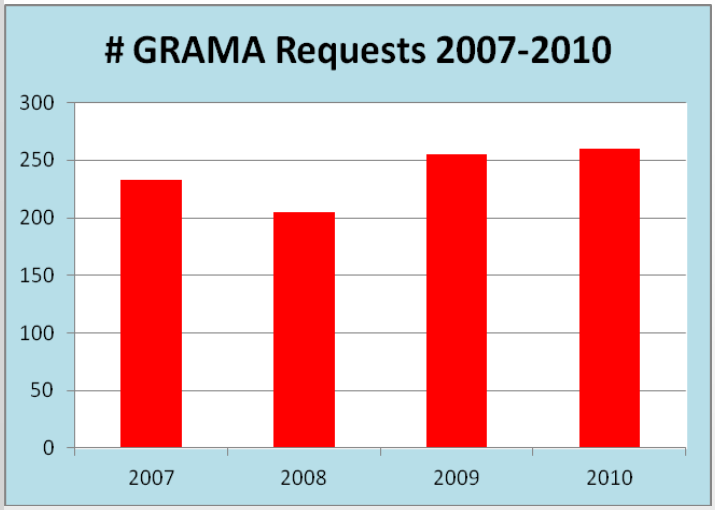


Figure 1: The number of GRAMA requests 2007-2010

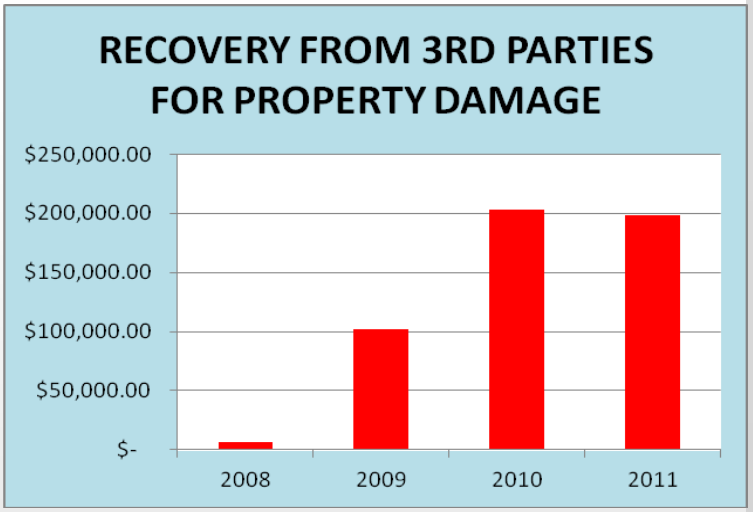


Figure 2: Recovery from third parties for damages to UDOT property 2008-2011

Risk Management

2011 Accomplishment

- 206% decrease in Workers Compensation dollars incurred over five year period
- 33% decrease in dollars incurred over last year alone.

2012 Goal

- Continue downward trend in workers compensation costs

2011 Accomplishment

- 466% decrease in third party dollars incurred over the last four years

2012 Goal

- Re-start downward trend in dollars incurred on third party liability claims

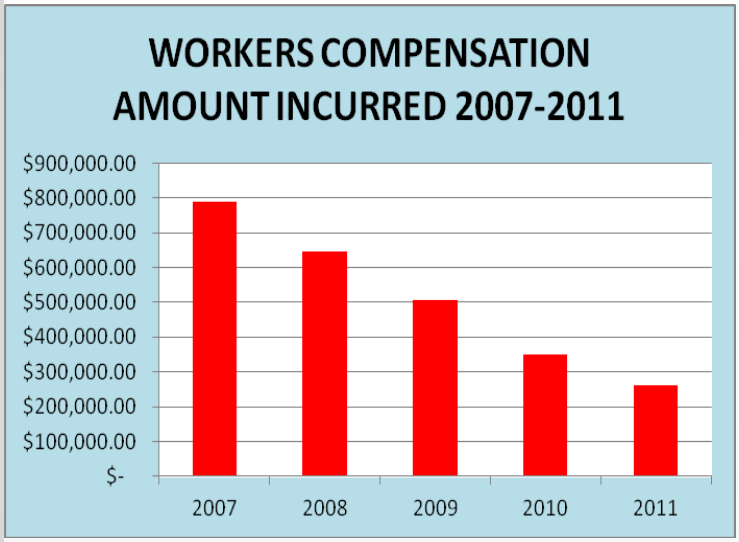


Figure 3: Workers Compensation dollars incurred 2007-2011

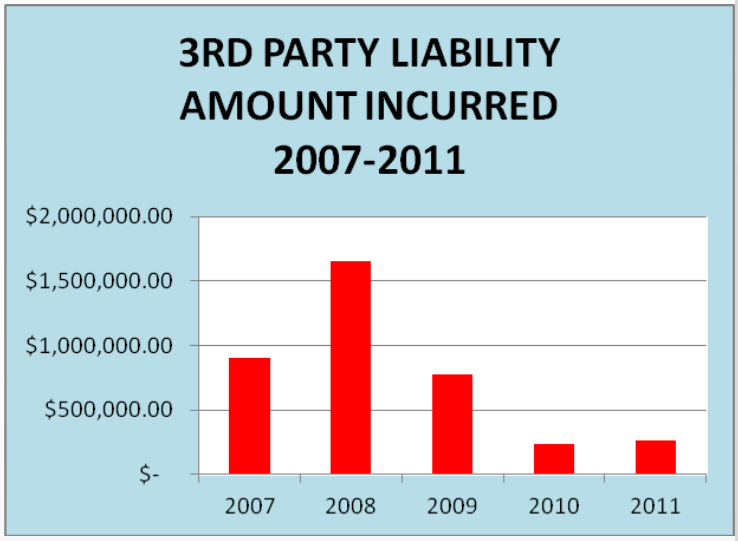


Figure 4: Third Party Liability $ Incurred 2007-2011

How We Will Improve

By analyzing loss trends, we hope to lower both workers compensation and third party liability amounts incurred over the next year. We plan on staying on top of all of the GRAMA requests that come into this office. We have already surpassed last year's total number of GRAMA request. We are also pursuing all of the recovery amounts including possibly litigating the claims we are having trouble recovering on.

Traffic Management

INTRODUCTION

The Traffic Management Division (TMD) is responsible for planning, designing, installing, operating, and maintaining advanced Traffic Management Systems (ATMS) technologies to improve transportation mobility, safety, economic prosperity and customer satisfaction. The TMD accomplishes this using the tools established at the Traffic Operations Center, including a statewide traffic signal control system, the ability to monitor and manage traffic through cameras and message signs, ramp metering, weather forecasting, managed lanes, and monitoring and reporting of regional mobility. The work of the TMD touches all four of UDOT's Strategic Goals.

2011 Accomplishment

The ATMS system allows UDOT to provide traveler information to road users. The system has grown by 117% in the last five-years. On average, system devices were operational 90% of the time in FY2011. ATMS maintenance staffing remained static in the time depicted on Figure 1.

2012 Goal

The goal for device availability varies by device. However, the goal for the overall system is to have an average of 93% of devices operational at any given time. This level has been achieved only once in FY2009.

2011 Accomplishment

The UDOT fiber optic network is the backbone of the ATMS system. In 2011 the network reached 1,800 total fiber miles, 980 of which were obtained through trade with eighteen different telecom companies. Figure 2 shows that the value to UDOT of these trades reached $48.5 million in 2011. These trades also benefit other state agencies and the Utah economy, facilitating business growth and improved services at reduced costs.

2012 Goal

Priority segments to eliminate gaps or extend the system in 2012 (mostly through trades) are:

- US-191, Moab to Monticello
- I-80, Wanship to Coalville
- I-15, SR-92 to Lehi Main Street
- I-15, Mile Post 16-27

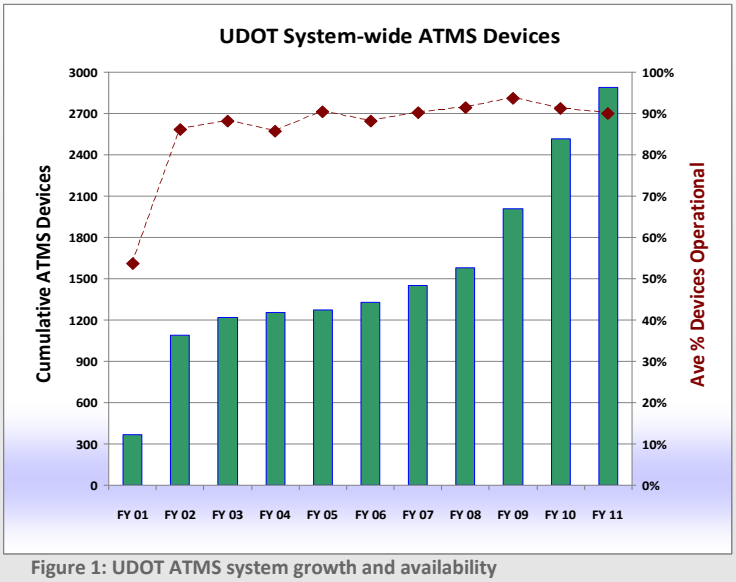


Figure 1: UDOT ATMS system growth and availability

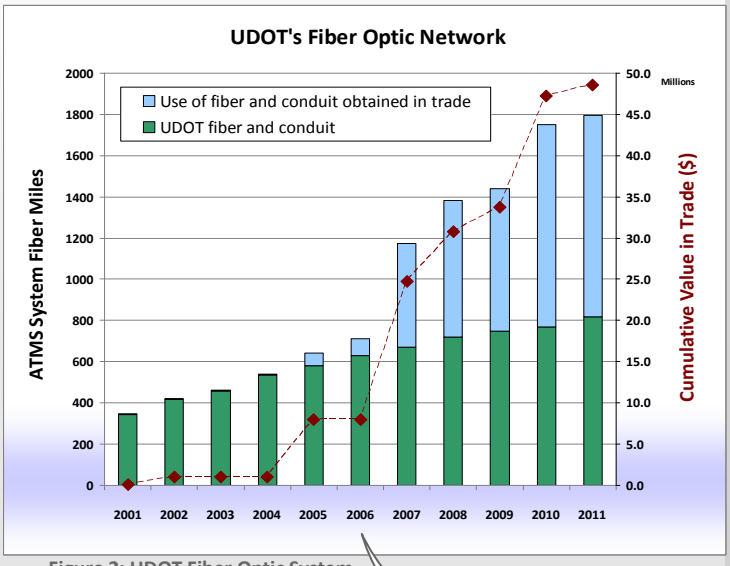


Figure 2: UDOT Fiber Optic System Growth

Traffic Management

2011 Accomplishment

ACS-Lite, an adaptive signal control system, was implemented at five intersections on US-40 in Heber City in June 2011. The state-of-the-art adaptive system responds dynamically to changing traffic demand by adjusting green time to provide acceptable service for all movements while optimizing the flow of traffic along the corridor.

As shown in Table 1, average travel time and speeds each improved by 7%, while delay and stops decreased by 30% along the 1.5-mile corridor. These efficiencies will save $640,000 in user costs annually.

2012 Goal

Increase UDOT's experience with adaptive control by expanding the implementation of ACS-Lite. Potential locations include Salt Lake City (Foothill Blvd), Cottonwood Heights, Provo/Orem, Tooele, St. George Blvd, Moab, and Spanish Fork.

	Heber ACS-Lite System Percent Change in			
Timeframe	Travel Time	Total Delay	Avg. Speed	# Stops
AM	-4%	-30%	4%	-33%
Midmorning	-13%	-58%	14%	-60%
Noon	-9%	-35%	10%	-25%
Midday	-5%	-28%	5%	0%
PM	-2%	-8%	3%	-18%
Daily Average	**-7%**	**-30%**	**7%**	**-30%**

Table 1: Heber ACS-Lite Implementation Results

2012 Goal

Utilize available capacity in the HOV lane while maintaining a minimum average HOV lane speed of 55 mph 90% of the time.

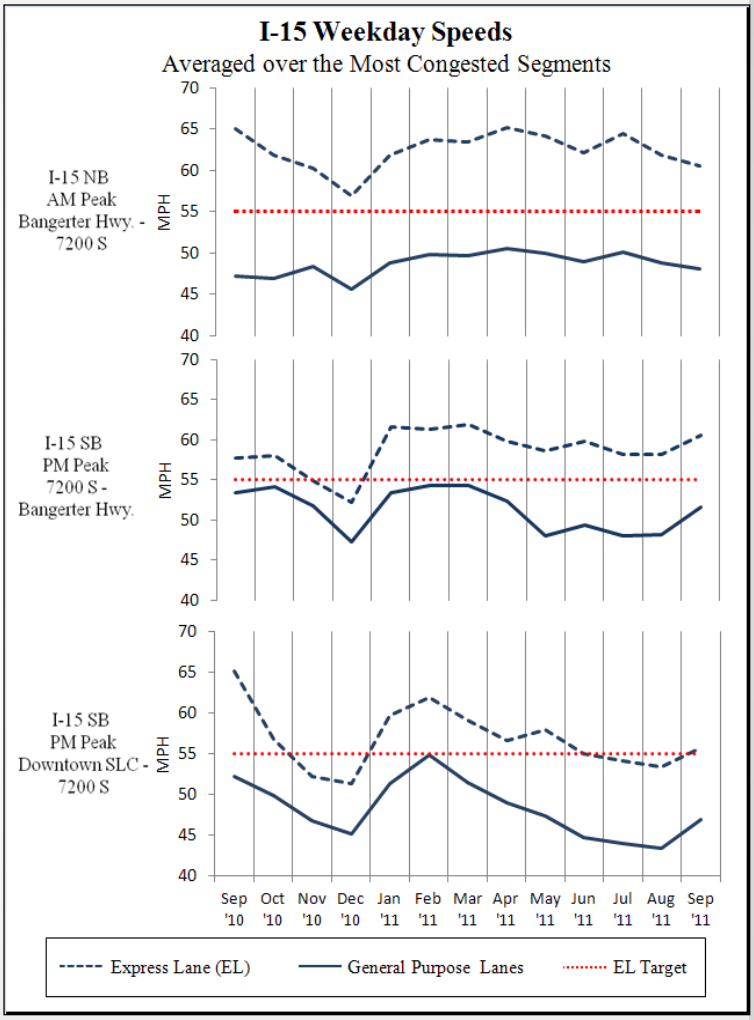


Figure 3: Avg. Peak Period Speeds on I-15

2011 Accomplishment

Electronic Toll Collection was implemented to enhance the access of single vehicles to available capacity in the HOV Lane. This allows drivers flexibility in using the lane, reducing traffic volume in the general purpose lanes during peak demand. Figure 3 shows the average speeds in each lane over the last year.

How We Will Improve

The Traffic Management Division is in the process of evaluating current processes and organization to determine if changes would result in more efficient operations.

Traffic and Safety

INTRODUCTION

Traffic related deaths are the lowest in 35 years. The Traffic and Safety Division is a leader in this continued effort to reach **Zero Fatalities**. The **Zero Fatalities** goal will be realized by:

- Installing safety improvements that are proven to prevent fatalities
- Working with our partners to incorporate safety measures in planning, law enforcement, and education

2011 Accomplishment

The Division programmed $14.7 million in safety program funds towards safety improvements.

- 503 miles of centerline and shoulder rumble strips installed in various projects
- 76 miles of median cable barrier installed for a total of 189 miles since 2004

2012 Goal

- Reduce fatalities by two percent each year
- Continue to install centerline and shoulder rumble strips
- Continue assisting Metropolitan Planning Organizations to incorporate safety into planning
- Training on and integration of the Highway Safety Manual practices and procedures

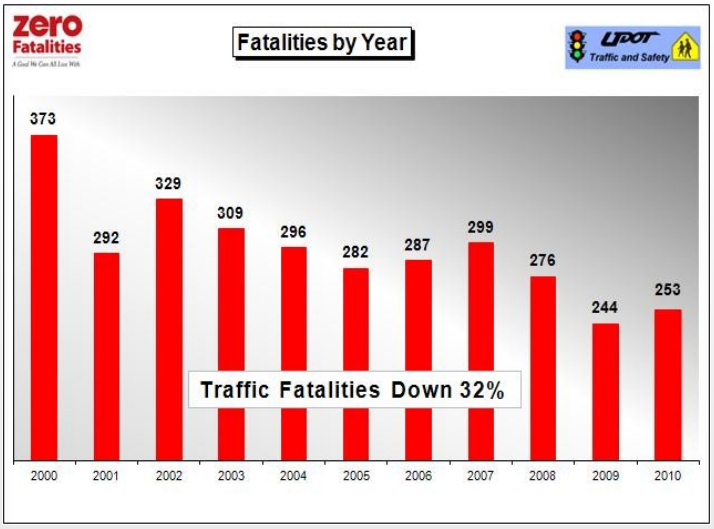


Figure 1:Statewide Fatalities by Year

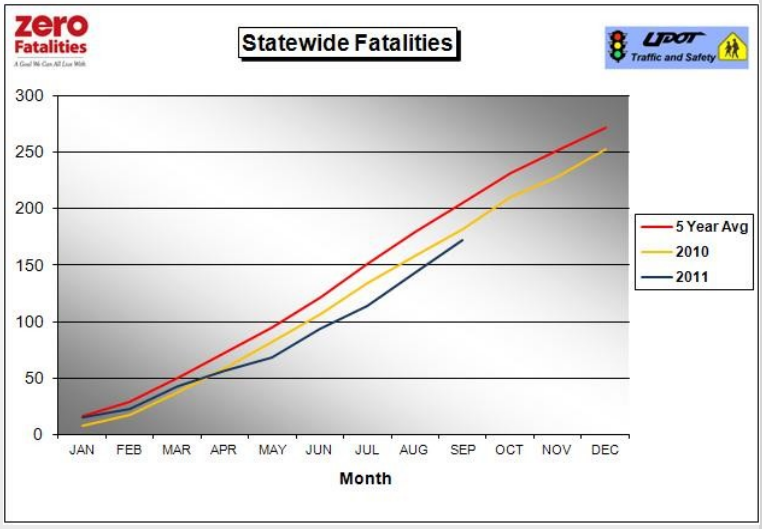
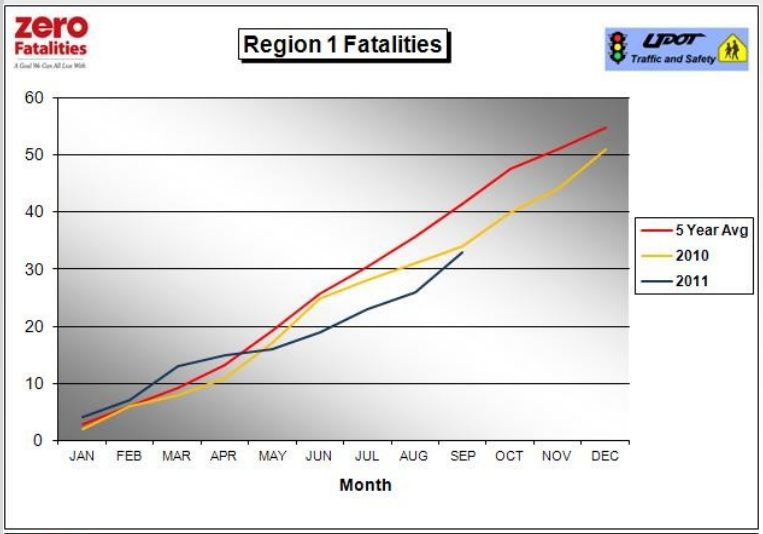
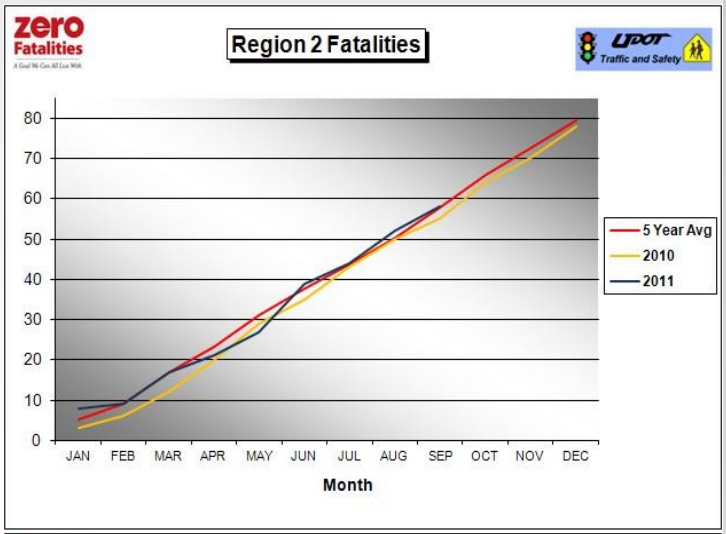


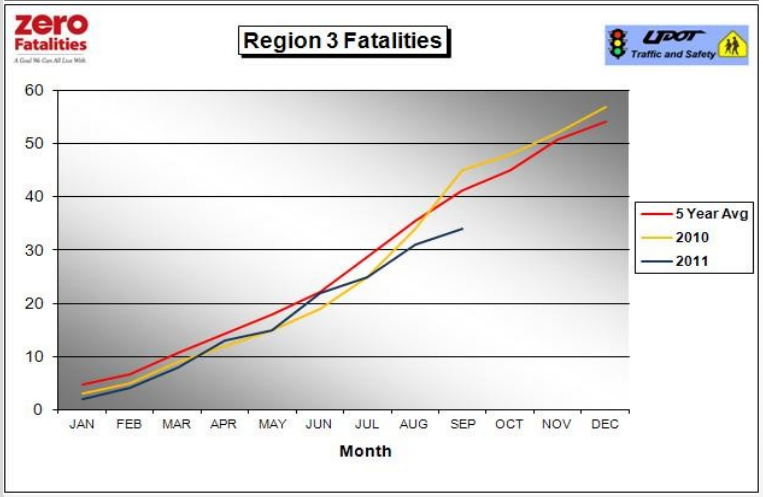
Figure 2:2011 Cumulative Fatalities Trend

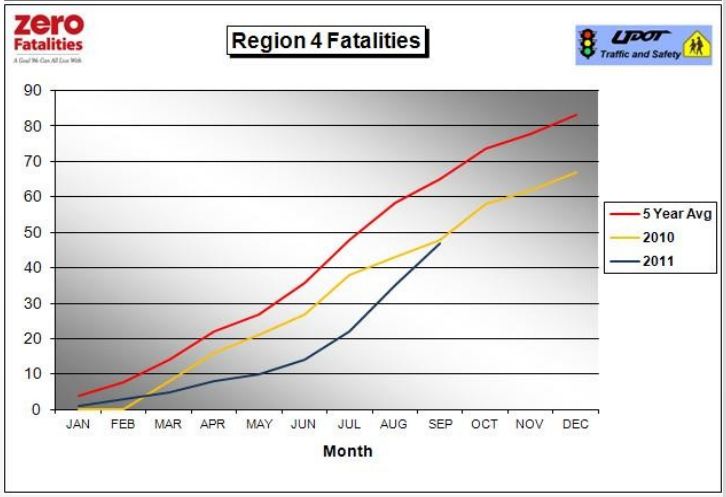
Traffic and Safety

Cumulative Fatalities by Region









How We Will Improve

The Traffic and Safety Division will continue to improve highway safety and customer service by:

- Improving the process efficiency for traffic studies, crash data analysis, and safety program management.
- Using a focused approach to deliver resources targeted toward Utah's most significant crash types.

zero Fatalities
A Goal We Can All Live With

DON'T DRIVE STUPID

SNAP™
Student Neighborhood Access Program